

3) Calculate the probability of each event below:

- Rolling two dice and getting sum of either 3 or 11.
- Flipping 3 coins and getting exactly 2 heads.
- A bag contains 2 yellow marbles and 5 red marbles. Two marbles are drawn at random. One marble is drawn and not replaced. Then a second marble is drawn. What is the probability that the first marble is red and the second one is yellow?

1st roll

2nd roll

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

$$\frac{4}{36}, \frac{1}{9}, 11.1\%, 0.\overline{11}$$

3 coins, 2 heads

$$\frac{1}{4}$$

$$\frac{1}{3}$$

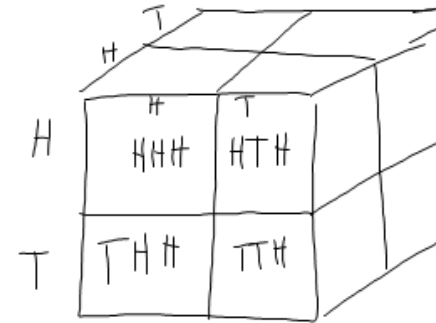
$$\frac{2}{7}$$

$$\frac{2}{3}$$

$$\frac{1}{6}$$

H H H
 H H T
 H T H
 T H H
 H T T
 T H T
 T T H
 T T T

$$\frac{3}{8}$$



$$\begin{matrix} 1^{st} & 2^{nd} & 3^{rd} \\ \frac{1}{2} & \cdot & \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{8} \cdot 3 = \frac{3}{8} \end{matrix}$$

	H	T	H	T
H	HHH	HHT	THH	THT
T	HTH	HTT	TTH	TTT

1st pull
red

2nd pull
yellow

$$\frac{5}{7} \cdot \frac{2}{6} = \frac{10}{42} = \frac{5}{21}$$

1st Draw

